

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-3 and 15 are pending in the application, and are each amended by the present amendment. Support for amended Claims 1-3 and 15 can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the Final Office Action of December 14, 2009 (herein, the Final Office Action), Claims 1-3 and 15 are rejected under 35 U.S.C. § 103(a) as unpatentable over Jung (U.S. Pat. 6,020,925, herein the '925 patent) in view of Swonger (U.S. Pat. 4,754,490, herein the '490 patent) and Gaffin et al. (U.S. Pat. 6,625,317, herein the '317 patent), and under 35 U.S.C. § 103(a) as unpatentable over Kondo (JP 11258472, herein the '472 patent) in view of Kondo (U.S. Pat. 5,576,772, herein the '772 patent), the '490 patent and the '317 patent.

In response to the above noted rejections under 35 U.S.C. § 103, Applicants respectfully submit that amended independent Claims 1-3 and 15 recite novel features clearly not taught or rendered obvious by the applied references.

Claim 1, for example, is amended to recite an image processing apparatus for compressing an input image using a motion vector, the image processing apparatus comprising:

means for storing position information of each pixel of a first frame that is earlier in time than a second frame at an address corresponding to a feature value (f) that is based on a value of said each pixel and pixels peripheral to said each pixel, the feature value representing a feature of said each pixel and defined as

$$f(L_{i-1,j-1}, L_{i-1,j}, L_{i-1,j+1}, L_{i,j-1}, L_{i,j}, L_{i,j+1}, L_{i+1,j-1}, L_{i+1,j}, L_{i+1,j+1}),$$

where i indicates a vertical direction, j indicates a horizontal direction, and $L_{i,j}$ indicates a pixel value of a position (i, j) ...

¹ See p. 19 of the specification.

Independent Claims 2-3 and 15, while directed to alternative embodiments, are amended recite similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1-3 and 15.

In rejecting Claims 1-3 and 15, the Office Action concedes that none of the '925 patent, the '490 patent, the '472 patent or the '772 patent disclose "that the feature is based on a value of the pixel and a pixel peripheral to the pixel" and relies on the '317 patent in an attempt to remedy this deficiency.

More particularly, the Office Action relies on Fig. 4, col. 2, ll. 23-22 [sic] and col. 3, ll. 36-47 of the '317 patent to reject the claimed features directed to the feature value being based on the pixel and a pixel peripheral to the pixel. Col. 2, ll. 23-32 of the '317 patent describes thresholding video information from a television camera to produce a stream of binary data, which is saved and moved into a series of shift registers in order to extract sub-frames. These sub-frames represent a small moving region of interest extracted from the binary data stream, and binary information from each sub-frame is used to address a large random access memory. Col. 3, ll. 36-47 of the '317 patent describes that each digital feature from a feature capture apparatus 110 is provided to mapper 115, which translates the digital features into memory addresses used to store a value into memory 120.

Thus, the '317 patent, at best, describes extracting sub-frames that "represent a small moving region of interest", and translating these features into memory addresses used to store a value. The '317 patent, therefore, fails to disclose that this small moving region corresponds to a specific "feature value based on a value of said each pixel and pixels peripheral to said each pixel", whatsoever, much less that such a feature value is defined as " $f(L_{i-1,j-1}, L_{i-1,j}, L_{i-1,j+1}, L_{i,j-1}, L_{i,j}, L_{i,j+1}, L_{i+1,j-1}, L_{i+1,j}, L_{i+1,j+1})$ ", where i indicates a vertical direction, j indicates a horizontal direction, and $L_{i,j}$ indicates a pixel value of a position (i, j) ", as recited in amended independent Claims 1-3 and 15.

Therefore, the '317 patent, even if combined with one or more of the '925, '490, '472 and/or '772 patents, fails to teach or suggest an image processing apparatus that stores "position information of each pixel of a first frame that is earlier in time than a second frame at an address corresponding to a feature value (f) that is based on a value of said each pixel and pixels peripheral to said each pixel, the feature value representing a feature of said each pixel and defined as $f(L_{i-1,j-1}, L_{i-1,j}, L_{i-1,j+1}, L_{i,j-1}, L_{i,j}, L_{i,j+1}, L_{i+1,j-1}, L_{i+1,j}, L_{i+1,j+1})$, where i indicates a vertical direction, j indicates a horizontal direction, and $L_{i,j}$ indicates a pixel value of a position (i, j) ...", as recited in each of amended independent Claims 1-3 and 15.

Accordingly, for at least the reasons discussed above, Applicants respectfully request that the rejections of Claims 1-3 and 15 under 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-3 and 15 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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